

ENVIRONMENTAL EVALUATION NOTIFICATION FORM

Grantee/Contractor Laboratory: Princeton University/Princeton Plasma Physics Laboratory (PPPL)  
Project/Activity Title: Generic Categorical Exclusion: Bench-Scale Research Projects & Conventional Laboratory Operations

CH NEPA Tracking No.: \_\_\_\_\_ Type of Funding \_\_\_\_\_ N/A  
B&R Code: \_\_\_\_\_ Total Estimated Cost: \_\_\_\_\_ N/A

Contractor Project Manager: \_\_\_\_\_ Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

Contractor NEPA Reviewer: Jerry D. Levine Signature: \_\_\_\_\_  
Date: 11/7/19

- I. **Description of Proposed Action:** This Categorical Exclusion covers bench-scale research projects and conventional laboratory operations conducted in established buildings at PPPL as well as offsite collaborations with other state, federal or international entities. Specifically, bench-scale chemical, physical, and theoretical studies, experiments, and related activities including the assembly/disassembly of experimental instrumentation and research equipment (e.g., diagnostics systems, plasma heating, control or fueling systems, shielding systems, etc.) are within the scope of the proposed actions.

**RESTRICTIONS:** This categorical exclusion determination does not apply to the following:

- 1) Activities that require major building renovations
- 2) Activities that might impact historic structures or equipment
- 3) Research activities that generate "no path forward" waste
- 4) Demonstration actions undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

- II. **Description of Affected Environment:** PPPL is located on Princeton University's James Forrestal Campus in Plainsboro Township, Middlesex County (central New Jersey), adjacent to the municipalities of Princeton, Kingston, East and West Windsor, and Cranbury, NJ. It occupies approximately 88.5 acres in the areas known as "C- and D-sites." PPPL has operated on the current site since 1959. The closest urban centers are New Brunswick, 14 miles (22.5 km) to the northeast, and Trenton, 12 miles (19 km) to the southwest. Within a 50-mile (80 km) radius are the major urban centers of New York City, Philadelphia, and Newark. Princeton University's main campus is approximately three miles west of the site, primarily located within the borough of Princeton.

The estimated resident population within 10 miles (16 kilometers) of PPPL is about 500,000. The total estimated population within a 50-mile (80 kilometer) radius of PPPL is approximately 16.4 million.

Surrounding the site are lands of preserved and undisturbed areas including upland forest, wetlands, open grassy areas, and a minor stream, Bee Brook, which flows along PPPL's eastern boundary. These areas are designated as open space in the James Forrestal Campus (JFC) site development plan.

The climate of central New Jersey is classified as mid-latitude, rainy climate with mild winters, hot summers, and no dry season. Temperatures may range from below zero to above 100 degrees Fahrenheit (°F) (-17.8° Celsius (C) to 37.8° C); extreme temperatures typically occur once every five years. Approximately half the year, from late April until mid-October, the days are freeze-free. Normally, the climate is moderately humid with a total average precipitation about 46 inches (116 cm) evenly distributed throughout the year.

Generic Categorical Exclusion: Experiments

III. **Potential Environmental Effects:** (Attach explanation for each "yes" response, and "no" responses if additional information is available and could be significant in the decision making process.)

**A. Sensitive Resources: Will the proposed action result in changes and/or disturbances to any of the following resources?**

	<u>Yes/No</u>
1. Threatened/Endangered Species and/or Critical Habitats	1. No
2. Other Protected Species (e.g. Burros, Migratory Birds)	2. No
3. Wetlands	3. No
4. Archaeological/Historic/Cultural Resources	4. No
5. Prime, Unique or Important Farmland	5. No
6. Non-Attainment Areas for Ambient Air Quality Standards	6. No
7. Class I Air Quality Control Region	7. No
8. Special Sources of Groundwater (e.g. Sole Source Aquifer)	8. No
9. Navigable Air Space	9. No
10. Coastal Zones	10. No
11. Areas w/Special National Designation (e.g. National Forests, Parks, Trails)	11. No
12. Floodplain or Wetlands	12. No

**B. Regulated Substances/Activities: Will the proposed action involve any of the following regulated substances or activities?**

	<u>Yes/No</u>
13. Clearing or Excavation (indicate if greater than 1 acre; if more than 5,000 sq. ft., a Soil Erosion / Sediment Control Permit may be required from Freehold Soil Conservation District.)	13.No
14. Dredge or Fill (under Clean Water Act section 404; indicate if greater than 1 acre)	14. No
15. Noise (in excess of regulations)	15. No
16. Asbestos Removal	16. Yes
<i>Some activities may involve penetration of asbestos containing walls, asbestos tile removals, etc. These activities would require support from an asbestos certified subcontractor. The removal would comply with state and federal regulations.</i>	
17. Polychlorinated Biphenyls (PCBs)	17. No
18. Import, Manufacture or Processing of Toxic Substances	18. No
19. Chemical Storage/Use	19. Yes
<i>Experiments may require storage and use of chemicals such as compressed gases, cleaning solvents, lithium, etc. All such storage and use would be conducted in accordance with products Safety Data Sheets (SDSs), approved PPPL policies, procedures and requirements of the ES&amp;H Manual.</i>	
20. Pesticide Use	20. No
21. Hazardous, Toxic, or Criteria Pollutant Air Emissions	21. Yes
<i>Small air emissions from experiments would be limited and would be conducted in accordance with applicable state and federal regulations, applicable permits, and DOE and PPPL requirements.</i>	
22. Liquid Effluent	22. Yes
<i>Small amounts of liquid effluents are possible from some experiments. All such effluents would be limited in accordance with existing PPPL procedures and relevant state and federal requirements.</i>	
23. Underground Injection	23. No

Generic Categorical Exclusion: Experiments

- |     |   |         |
|-----|---|---------|
| 24. | Hazardous Waste<br><i>Small amounts of hazardous wastes (e.g., solvent rags used for cleaning components) may be generated by some experiments, and would be disposed by the PPPL Waste Management Group in accordance with existing PPPL procedures and relevant state and federal requirements.</i> | 24. Yes |
| 25. | Underground Storage Tanks   | 25. No  |
| 26. | Radioactive (AEA) Mixed Waste   | 26. No  |
| 27. | Radioactive Waste<br><i>Small amounts of low level radioactive waste may be generated by a few experiments, which would be handled and disposed by the PPPL Waste Management Group in accordance with existing PPPL procedures and relevant state and federal requirements.</i>                       | 27. Yes |
| 28. | Radiation Exposures<br><i>The potential may exist for small radiation exposures of workers from a few experiments. Any such exposures will be controlled in accordance with existing PPPL procedures with the support of the PPPL Health Physics Division.</i>  | 28. Yes |

**C. Other Relevant Disclosures. Will the proposed action involve the following?**

- |   | <u>Yes/No</u> |
|---|---------------|
| 29. A threatened violation of ES&H regulations/permit requirements<br><i>The requirements of 10CFR851 (as implemented under the DOE approved PPPL Worker Safety and Health Program) would be applied to these activities.</i>   | 29. No        |
| 30. Siting/Construction/Major Modification of Waste Recovery, or TSD Facilities   | 30. No        |
| 31. Disturbance of Pre-existing Contamination   | 31. No        |
| 32. New or Modified Federal/State Permits<br><i>Some experimental activities may involve modifications to existing federal and state permit requirements (e.g., air permits), which would be accomplished by the PPPL Environmental Services Division using existing PPPL procedures.</i> | 32. Yes       |
| 33. Public controversy  | 33. No        |
| 34. Action/involvement of Another Federal Agency (e.g. license, funding, approval)  | 34. No        |
| 35. Action of a State Agency in a State with NEPA-type law.<br>(Does the State Environmental Quality Review Act Apply?)   | 35. No        |
| 36. Public Utilities/Services   | 36. No        |
| 37. Depletion of a Non-Renewable Resource   | 37. No        |

IV. **Section D Determination:** Is the project activity appropriate for a determination under Subpart D of the DOE NEPA Regulations for compliance with NEPA?

Yes

**DOE-PSO NEPA Compliance Officer (NCO) Review:**

Concurrence with Proposed Class of Action Recommended

CX            EA            LIS

Category: B3.6            Small-scale research and development, laboratory operations, and pilot projects

For Categorical Exclusions (CXs):

A. The proposed action fits within a class of actions that is listed in Appendix A or B to Subpart D. For classes of actions listed in Appendix B, the following conditions are integral elements; i.e., to fit within a class, the proposal must not:

- 1) Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders;
- 2) Require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities;
- 3) Disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or
- 4) Adversely affect environmentally sensitive resources.

B. There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal; and

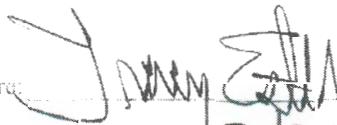
C. The proposal is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

V **DOE Recommendation Approval:**

PSO Staff:

TRACY ESTES

Signature: \_\_\_\_\_



Date: \_\_\_\_\_

2/21/2019

Generic Categorical Exclusion: Experiments

SCGLD: M. CHASE Signature: [Handwritten Signature]  
MCCANN Date: 2/26/19

VI NEPA Compliance Officer: Suipar DCA Determination and Approval.

Based on my review of information conveyed to me and in my possession (or attached) concerning the proposed action, as NEPA Compliance Officer, I have determined that the proposed action fits within the specified class of actions, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

PSO NCO: Freda Lynn Murray Signature: [Handwritten Signature]  
Date: 2/25/19